20 No. 5 (New Series No. 77) April 1960

ANALYSIS

THE UNIVERSITY OF MICHIGAN
APR 26 1960
PERIODICAL READING ROOM

Edited by
BERNARD MAYO
with the advice of

A. J. Ayer
R. B. Braithwaite
Herbert Dingle
A. E. Duncan-Jones
P. T. Geach
C. A. Mace
A. M. MacIver
H. H. Price

CONTENTS

The Exclusive 'Or'
L. GODDARD

Notes on A. J. Ayer's "The Terminology of Sense-data"
LENNART ÅQVIST

Different Kinds of Heed Concepts
ALAN R. WHITE

Bodily Continuity and Personal Identity
ROBERT C. COBURN

Notice to Contributors

THREE SHILLINGS AND SIXPENCE NET

BASIL BLACKWELL · BROAD STREET · OXFORD

THE EXCLUSIVE 'OR'

By L. GODDARD

IT is commonly taken for granted that the exclusive use of the word 'or' (one or the other, not both) can be defined in terms of the inclusive use (one or the other, possibly both) and, therefore, that no special account needs to be taken of it within the sentential calculus. Thus, it is said, if '**a**' (*aut*) symbolizes the exclusive 'or', then '*paq*' is to be defined as '$pvq \,\&\sim(p\&q)$'; from which it follows that the definitional table for '**a**' is

I

p	**a**	*q*
T	F	T
F	T	T
T	T	F
F	F	F

There is however a difficulty here. For there seem to be at least two different uses of the exclusive 'or', one of which is adequately defined by the above table, one not.

Thus, sometimes when we make statements of the form 'Either . . . or . . .', and intend the 'or' to be taken in the exclusive sense, the context is such that it is possible for both components simultaneously to be true, though as a matter of fact they are not. Such a use is exemplified by "Smith eats either butter or jam on his bread". Here, we are stating that as a matter of fact he does not eat both butter and jam; but it is clearly possible that he should do so, and if he does, then the statement we make is false. Also, of course, if he eats neither with his bread, then again the disjunctive assertion is false. Evidently, it is this use which is defined by table I.

There is another use of the exclusive 'or', however, which presupposes a context in which it is not possible for both components simultaneously to be true, as, for example, when we say, "Your slippers are in the bedroom or the bathroom". And for such cases, the first row of table I is misconceived. For since it determines as a possibility a set of conditions which cannot be fulfilled, it constitutes a false component in the definition. When we use the exclusive 'or' in a context of this sort, we are not wanting to imply that when both components are true the whole

expression is false; on the contrary, we use the exclusive 'or' precisely because both components could not be true. Certainly, if ordinary usage is any criterion, then the exclusive 'or' is frequently used in circumstances in which it would be physically impossible, if not logically impossible, to satisfy both disjuncts. Clearly, however, to give the compound '*paq*' the value F under the condition '*p*T,*q*T' is emphatically not to deny the possibility of the condition.

Prima facie these two uses seem properly to be embraced by the definitional phrase 'one or the other but not both', but this is only because of an ambiguity in 'not both'. Very often the force of the definitional phrase is 'either one or the other is true, but it is not possible that both should be', rather than, 'either one or the other is true, but as a matter of fact, though both could be, not both are'. And it is only the latter which is expressible as a truth-functional definition (table I); the former clearly is not truth-functional. If we take the former sense, we intend the definitional 'not both' to imply something about the possibility of the conditions expressed in the first row, not something about the truth-value of the disjunction under such conditions.

To distinguish between the two uses, I shall retain the symbolism '*paq*' for the jam-or-butter type of exclusion and I shall suppose that table I adequately defines the use of '**a**'. The bathroom-or-bedroom type of exclusion I shall symbolize initially by '*poq*'.

I now want to consider **o**-type exclusions in more detail, and the first question which arises is that of determining a definitional table for '**o**'. What we want to establish is that the first row of table I expresses an impossible set of conditions for exclusions of this type. It therefore seems appropriate to deal with any compound in which '**o**' occurs by means of abbreviated truth tables. That is, truth tables similar in all respects to the familiar ones, but which omit the condition '*p*T,*q*T'. Thus the definitional table is:

II

p	**o**	*q*
~~T~~		~~T~~
F	T	T
T	T	F
F	F	F

i.e., if one or other of the components is true, the compound is true; while if both are false, the compound is false; but it is impossible that both should be true. Thus '**o**' is not a truth-functional constant.

Such a technique is not new to logic,[1] indeed is not new to the sentential calculus. The definitional table for '~', for example, may be thought of as a table in which all the mathematically possible combinations of 'T' and 'F' are first written down and from which the conditions '*p*T, ~*p*T' and '*p*F, ~*p*F' are then eliminated as impossible (table III below). Similarly, in his treatment of modal logic, von Wright[2] recognises that the condition '*p*T; possibly *p*, F' is an impossible one, and this amounts to offering the abbreviated table IV (below) as a *quasi*-truth-functional definition of 'M'.

III

p	~*p*
~~T~~	~~T~~
F	T
T	F
~~F~~	~~F~~

IV

p	*Mp*
T	T
F	T
~~T~~	~~F~~
F	F

Now in such cases, the *rationale* of the abbreviation is just that '*p*' and '~*p*', '*p*' and '*Mp*', are not independent. Similarly, if '*p*' excludes '*q*' then '*q*' is not independent of '*p*'; and in fact, of course, there is a well-recognised relation existing between them, the relation of contrariety. If two sentences cannot be true together, whether because of their form (*e.g.* 'All cats are furry' and 'No cats are furry') or their content (*e.g.* 'I am in Sydney' and 'I am in Armidale') then we may say that they are contraries.

This suggests that we might be nearer the mark if, instead of treating '*p*' and '*q*' as independent variables and invoking table II as a definition of '**o**', we write '*q*', when '*q*' excludes '*p*', as some function of '*p*', '**c***p*' say (which may be read 'contra-*p*'), and define '**c**' directly, as '~' and '*M*' are defined directly, in the following table:

[1] Compare Wittgenstein's "Logical Form" (*Aristotelian Society Proceedings*, Suppl. Vol. IX, 1929) in which an abbreviated truth table is used to point the difference between the conjunction of independent sentences and the conjunction of sentences which exclude each other. Wittgenstein's table is my table V except that it is expressed in terms of particular sentences instead of variables.

[2] *Essay in Modal Logic*, Ch. III, p. 19 ff.

V

p	c*p*
T	T
F	T
T	F
F	F

This way of dealing with the *relation* 'contrary of' is analagous to the treatment of the contradictory relation in terms of the monadic constant '~'.

An immediate simplification in the treatment of the exclusive 'or' now follows since '**o**' is no longer required as a separate constant. Thus, if '*p*' and 'c*p*' appear as the components of an inclusive disjunction, the truth table, applying table V, and VII (below), will be,

VI

p	v	c*p*
T		T
F	T	T
T	T	F
F	F	F

and this is identical with table II. This corresponds to the fact that special connective constants are not required if we compound say, negated and unnegated expressions, or modal and non-modal.

The suggestion I want to make, therefore, is that many statements which commonly have been held to exhibit that exclusive use of the word 'or' which is defined by table I, are more properly dealt with as special (*i.e. quasi*-truth-functional) cases of inclusion. In fact, apart from the jam-or-butter cases, which are genuine examples of the use of '*aut*', the truth-value of a disjunction in general depends upon the kind of statements that are disjoined, not on the way in which they are disjoined. They may be independent of each other, in which case we have the basic table VII (below); or they may be such that one excludes the other, in which case we have the abbreviated table VI above (calculated from V and VII); or they may be such that one negates the other, in which case we have the still more abbreviated table VIII below (calculated from III and VII); or, finally,

they may be such that one expresses the possibility of the other, in which case we have yet a third abbreviated table IX (calculated from IV and VII). Thus,

VII				VIII				IX			
p	v	q		p	v	$\sim p$		p	v	Mp	
T	T	T		~~T~~		~~T~~		T	T	T	
F	T	T		F	T	T		F	T	T	
T	T	F		T	T	F		~~T~~		~~F~~	
F	F	F		~~F~~		~~F~~		F	F	F	

In all cases, therefore, negation, possibility and exclusion, we are dealing with characteristics of the sentences involved, not characteristics of the constant which joins them. And this seems not unreasonable. Ordinarily it is taken for granted in the case of negation and possibility; and in the case of exclusion, it seems clear enough that if I say " Either I am in Sydney or I am in Armidale ", the exclusion involved is not a property of the ' or ' but a property of, or a relation between, the two sentences ' I am in Sydney ' and ' I am in Armidale ', a property derived from their meaning and the fact that Sydney is 350 miles from Armidale.

I now want to show that this alternative way of dealing with exclusion removes a difficulty which arises when truth tables are used to test the validity of arguments which contain an exclusive ' or '. Thus, consider the following two dilemmas:

(*a*) If I receive a cheque to-day I shall go to Sydney, and if I don't I shall stay in Armidale; either I shall go to Sydney, therefore, or I shall stay in Armidale.

(*b*) If I receive a cheque to-day I shall sing a song, and if I don't I shall play the piano; so, either I shall sing a song or play the piano, but not both.

Since the consequents of the hypotheticals in the premisses of the first are contraries, the exclusive conclusion follows from the (already) exclusive premisses and the argument is therefore valid. The second is invalid, however, since the consequents of the hypotheticals are independent and hence do not imply the exclusive conclusion. Now if we recognise the exclusive character of the conclusions, there are three different ways of testing the validity of the arguments corresponding to the three different analyses of exclusion suggested above: (1) based on table I; (2) based on table II; and (3) based on tables V and VII.

(1) Given only the existing apparatus of the sentential calculus, we symbolize each argument as being of the form '$(p \longrightarrow q \ \& \ {\sim}p \longrightarrow r) \longrightarrow q \mathbf{a} r$' and use table I to compile the truth table. Since the last-calculated column does not consist of 'T's only, we conclude that both (*a*) and (*b*) are invalid. This is not surprising since the definition of '**a**' implies that it can only be used successfully with independent sentences. Hence it succeeds in the analysis of (*b*) but fails with (*a*) because of the special nature of the exclusion associated with contraries.

(2) We therefore symbolize (*a*) in terms of '**o**', and compile the truth table for '$(p \longrightarrow q \ \& \ {\sim}p \longrightarrow r) \longrightarrow q \mathbf{o} r$' using table II to eliminate those rows on which both 'q' and 'r' have the value T. There are two such; in fact those, and only those, which have the final value F when '**a**' (and table I) is used. The last-calculated column thus consists of 'T's only and the argument is revealed as valid. It is clear, however, that we have now proved far too much. For since 'q' and 'r' may in general be replaced by any sentences, whether or not they exclude each other, the validity of the second dilemma is also implied.

What is wrong, clearly, is the use of '**o**' with *independent* variables. For its definition implies that it can only be used successfully with exclusive sentences—just as '**a**' can only be used successfully with independent sentences. In some way, therefore, the range of the variables has to be restricted; or, equivalently, some relation between them has to be formulated so that the choice of a value for one determines the choice for the other.

(3) This brings us therefore to the third analysis. The first dilemma is now symbolized as '$(p \longrightarrow q \ \& p \longrightarrow \mathbf{c}q) \longrightarrow q \ \mathbf{v} \ \mathbf{c}q$' and table V is used to eliminate those rows of the truth table on which both 'q' and '$\mathbf{c}q$' have the value T (there are again two). As in (2), the last-calculated column consists of 'T's only, thus determining the argument as valid. But we have now avoided the difficulties in both (1) and (2). The advantage over (1) is that the argument appears as valid, and the advantage over (2) is that the law of which it is a case does not yield invalid arguments as other cases. For whatever sentence is used to replace 'q', the sentence chosen to replace '$\mathbf{c}q$' must be such that it excludes the sentence chosen to replace 'q'. This is precisely analogous to the situation which arises in laws containing both 'p' and '${\sim}p$'.

Suppose, for example, that we treated a sentence and its negation initially as if they were independent, representing them

for this purpose by means of the distinct variables 'p' and 'q', but then noticed that in ordinary language a relation exists between them which justifies the elimination of those rows which express either one of the conditions 'pT,qT' and 'pF,qF' in any truth table used to analyze arguments containing them. Faced now with an argument containing both a sentence and its negation, we recognise that the abbreviated table must be applied to the analysis of it, and it is revealed as valid. The law of which it is a case, however, would *qua* law say far too much; for since 'p' and 'q' may be replaced by any sentences, many arguments exhibited as valid by this form would not be so. This fact we recognise and overcome by introducing '$\sim$' explicitly as a constant and by forbidding the substitution of a freely-chosen sentence for the complex '$\sim p$'. This is how it is with laws containing both 'p' and '$\mathbf{c}p$'. There is one difference, of course, since in general a given sentence has many contraries but only one contradictory. Hence if we choose a sentence to replace 'p', there is no freedom left in the choice of the sentence to replace '$\sim p$', whereas there is usually some freedom in the choice of the sentence to replace '$\mathbf{c}p$'; it is not, however, the complete freedom of choice which we have in the case of 'q', and it is this last point which is important in this context.

It should be noted that the first analysis can be made equivalent to the third provided always that the exclusive condition is asserted as an additional and explicit premiss of any argument which contains contrary sentences. Thus, if it is recognised that, in the first dilemma, the two sentences symbolized by 'q' and 'r' do exclude each other, then the fact could be made explicit by writing the exclusive condition '$\sim(q\&r)$' into the premisses. This condition could not be written into the premisses of the second dilemma, however, and the two arguments could therefore be distinguished by representing them as cases of the two different forms: (a) $(p \longrightarrow q \;\&\; \sim p \longrightarrow r \;\&\; \sim(q\&r)) \longrightarrow q\mathbf{a}r$ and (b) $(p \longrightarrow q \;\&\; \sim p \longrightarrow r) \longrightarrow q\mathbf{a}r$. And since the last-calculated column of the first yields 'T's only, while the second contains 'F's, arguments in the first form are valid, those in the second invalid, whatever sentences are used to replace the variables. Once more, therefore, we by-pass the difficulties in both (1) and (2). We are able to demonstrate the validity of the first dilemma without at the same time implying the validity of the second.

We thus have an alternative to (3) which, so far as the analysis of arguments is concerned, eliminates the need for the

constant '**c**'.[1] But though we are in this way able to deal with all exclusions using only table I, it is a less satisfactory technique since it ignores the compelling theoretical reasons which suggest table VI as a better analysis of the Armidale-or-Sydney type of exclusion than table I. In practice, it means that in certain cases the exclusive condition has to be written both as a premiss and as part of the constant '**a**'; and against this has to be set the fact that when we deal with, say, an inclusive 'or', there is never any need to state explicitly and additionally the inclusive condition. And one should expect this to be so. For the point of a truth-table analysis is exactly to incorporate the meanings of the logical constants in the testing procedure, they do not also have to be incorporated in the premisses. Very often, of course, we do require to represent implicit premisses explicitly in order to symbolize an argument adequately, but ordinarily these are not such as define the meanings of the logical constants in the argument; it is the job of the definitional tables to do this. Hence, the choice is between writing the condition of exclusion as a premiss of every individual argument which contains an Armidale-or-Sydney type 'or', or of writing it once, either in a truth table or as an axiom.

So far as this last point is concerned, the required axiom is '$p \longrightarrow \sim \mathbf{c}p$'; *i.e.* if p, then it is not the case that contra-p (if any sentence is true then any contrary of that sentence is false). For on a straight truth-table analysis this fails as a law in case 'p' is T and '$\sim \mathbf{c}p$' is F. But since to put it up as an axiom is to say that it does not fail, what is being asserted is that the condition 'pT, $\sim \mathbf{c}p$F', *i.e.* 'pT,$\mathbf{c}p$T', cannot occur. That is, *qua* axiom, the expression '$p \longrightarrow \sim \mathbf{c}p$' implies the truth table for '**c**'; and conversely, given the truth table for '**c**' it follows that '$p \longrightarrow \sim \mathbf{c}p$' is a law.

It is now evident why the truth table for '**c**' *automatically* takes care of the exclusiveness. For '$p \longrightarrow \sim \mathbf{c}p$' may be written as '$\sim(p \& \mathbf{c}p)$'; and since a law can always be removed from or added to a set of premisses without affecting the validity of an argument, it follows that the exclusive condition is automatically an antecedent condition of any argument which contains contrary sentences provided that they are symbolized

[1] The matter can be shown formally by considering the possible outcomes in the two kinds of truth table. Thus, for example, whereas '$A \longrightarrow paq$' (A a set of premisses) differs from '$A \longrightarrow p \mathbf{v} \mathbf{c}p$' in yielding two 'F's in the final column as against one (thus indicating that some arguments classed as valid in terms of the third analysis will be invalid in terms of the first—the initial dilemma is a case in point), '$(A \ \& \sim(p \& q)) \longrightarrow paq$' and '$A \longrightarrow p \ \mathbf{v} \ \mathbf{c}p$' have equivalent outcomes.

in terms of '**c**'. If they are not so symbolized, but instead treated as independent, then since '$\sim(p\&q)$' is not a law, table I will not automatically test the validity of such arguments. Hence we have the same conclusion as before: that if table I is used for Armidale-or-Sydney type exclusions, '$\sim(p\&q)$' must be written into the premisses. And this is so whether or not we get the right answer using table I *by itself*. If we do get the right answer it is for the wrong reasons.

I want to show finally that the formal introduction of '**c**' transforms the sentential calculus into an intensional system.

As we have seen, in order properly to determine the validity of arguments containing the word 'or', it is necessary to look at the meanings of the sentences involved and then use this information as a justification for asserting an additional premiss (of the form '$\sim(p\&q)$') or, equivalently, as a justification for symbolizing one sentence by 'p' (say) and another by '**c**p'. This, of course, is not new; it always has been necessary to look at the meanings of the sentences involved in order to decide whether an 'or' should be symbolized as '**v**' or '**a**'. But the formal introduction of '**c**' takes us a step beyond this shadowy acknowledgement of intensions since laws in which it appears express intensional tautologies, *i.e.* tautologies of content, not of form.

This is most easily seen in terms of statements which express colour relationships. Thus, taking 'it' to refer to the same point of the same object, 'it is red' and 'it is blue' are contrary in meaning; and because they are, the sentence, 'if it is red then it is not blue' expresses an intensional tautology. This being so, its tautological character is not expressible in terms of the ordinary constants of the sentential calculus; the most we can do is to represent it as being of the form '$p \longrightarrow q$', with all the consequent absurdities. Using '**c**', however, we may represent 'it is red' by 'p' and 'it is blue' by '**c**p' and, hence, 'if it is red then it is not blue' is of the form '$p \longrightarrow \sim$**c**p'. Thus it is seen to be a special case of the axiom, and its last-calculated column consists of 'T's only.[1]

University of New England,
Armidale, N.S.W.

[1] In case we introduce the concept of subcontrariety also, similar intensional tautologies are seen to be special cases of general laws. The required axiom involving '**s**' (subcontra) is '$\sim p \longrightarrow$**s**p' (equivalently, the definitional table for '**s**' excludes that row on which both 'p' and '**s**p' have the value F). Also, of course, there is a law which expresses a relation between '**c**' and '**s**', viz '$\sim$**s**$p \longleftrightarrow$**c**$\sim p$' (the negation of a sub-contrary of 'p' is equivalent to a contrary of '$\sim p$') or '**s**$p \longleftrightarrow \sim$**c**$\sim p$'. The calculus containing both '**c**' and '**s**' is similar in some respects to the modal calculus.

NOTES ON A. J. AYER'S "THE TERMINOLOGY OF SENSE-DATA"

By LENNART ÅQVIST

IN this paper I deal with an issue discussed by A. J. Ayer in his essay "The Terminology of Sense-data" (reprinted in *Philosophical Essays*, London, 1954). It concerns the relations of sense-data to physical objects.

I

Ayer proposes a definition of the term "sense-datum" as "object of direct apprehension".[1] According to this definition, which he attributes to Moore, it is held (i) that if anything is directly apprehended, then it is a sense-datum, and (ii) that if anything is a sense-datum, then it is *capable* of being directly apprehended.[2] We are to suppose that the concept of direct apprehension is defined in such a way that

> the propositional function "x is seen", where x may be a physical entity, is made to entail the propositional function (*sic*) "there is some object y which is directly seen", and that the corresponding entailments are understood to apply to the other varieties of sense-experience. And suppose further that we admit the possibility that y may be identical with x, where x is a physical entity, or, in other words, that we allow, as Moore is inclined to do, that physical entities can be directly apprehended.[3]

One of Ayer's purposes is now to show that "no sense-datum can possibly be identical with any physical entity".[4] He wants then to refute a thesis of Moore's, according to which some (visual) sense-data are literally parts of the surfaces of physical objects.[5] His argument seems to run as follows. (We write "N" for "it is (logically) necessary that", and "not N" for "it is not necessary that".)

(1) For every x, if x is a sense-datum, then N (if x is apprehended, then x exists).

(2) For every x, if x is a physical entity, then not N (if x is apprehended, then x exists).

(1) and (2) together entail

[1] *Philosophical Essays* (*PE*), p. 81.
[2] *PE*, p. 67.
[3] *PE*, p. 81.
[4] *PE*, p. 84.
[5] E.g. *The Philosophy of G. E. Moore*, pp. 649–650.

(3) For every x, if x is a sense-datum, then x is not a physical entity.

There is an objection to this argument, which may be seen as follows.[1] In (1) and (2), insert for " x is a sense-datum " " x is a rhomb ", for " x is apprehended " " x is equiangular ", for " x exists " " x is square ", and for " x is a physical entity " " x is a parallellogram ". These substitutions being made, the apparently true premisses (1) and (2) entail the obvious falsehood " For every x, if x is a rhomb, then x is not a parallellogram ". Since (3) is derived from (1) and (2) by a valid rule of inference, it follows that the premisses cannot be true. The explanation seems to be that the " N "-operator is wrongly placed in (1) and (2), and that what Ayer intends to assert by (1) and (2) is to be correctly formulated thus:

(1′) N (for every x, if x is a sense-datum, then if x is apprehended, then x exists).

(2′) Not N (for every x, if x is a physical entity, then if x is apprehended, then x exists).

(1′) and (2′) obviously do not entail (3), nor do they, with the above substitutions, entail the falsehood that no rhombs are parallellograms. They do entail " the *property* of being a sense-datum is not identical with the *property* of being a physical entity ", but this, of course, is a triviality.

If, then, (1) and (2) are to be acceptable, they must be reformulated as (1′) and (2′), and (3) will not follow. If, on the other hand, we insist on placing " N " and " not N " as in (1) and (2), they will remain plausible only if we introduce, say, two different concepts of apprehension, designated by, say, " apprehend_1 " and " apprehend_2 " respectively. In that case (3) still will not follow, because of an obvious *quaternio terminorum*.

Suppose however that (1′) and (2′) could entail (3). What reasons does Ayer present in favour of (2′)? (He assumes, I think rightly, that Moore agrees with him on (1′)).[2] He seems to have only the following one. Considering the case of Macbeth hallucinating a dagger, he claims that this statement is true:

(4) Macbeth saw (apprehended) a dagger, which did not exist.

[1] As has been pointed out by P. Ericson, in an informal discussion.
[2] *PE*, p. 83.

Ayer also appears to admit that Macbeth's vision can be correctly described as follows:

(5) Macbeth saw a " daggerish " sense-datum, or a " sensory" dagger, but no physical dagger corresponding to this sense-datum existed.

How then is (4) to be interpreted, we may ask. At least the following possibilities seem to be open:

(T_1) " Dagger " in (4) designates a physical entity, and " saw " occurs in a sense in which it holds that not N (if x is seen (apprehended), then x exists). We may call this sense the " existentially neutral " sense of " see " (" apprehend ").

(T_2) (4) = def (5); where the *definiens* (5) gives some kind of logical analysis of (4); we note that this interpretation only makes use of a sense of " see " (" apprehend ") in which it holds that N (if x is seen (apprehended), then x exists). We call this sense the " existence-implying " sense of " see ".

Now, according to Ayer, (4) constitutes a reason for (2′), *i.e.* the following statement is to be true:

(6) If (4), then (2′).

It is clear that (6) cannot be adopted without restrictions. If *e.g.* (T_2) is correct, (6) becomes quite unfounded. Only the following weaker variant of it seems to hold:

(6′) If (4) and (T_1), then (2′); (if (T_1), then (6)).

Ayer obviously accepts (T_1). But he seems willing to admit (T_2) as well, for he says that "admittedly ' a dagger which does not exist ' is not a physical but at best a sensory dagger "[1] and further " to say that Macbeth saw a non-existent physical dagger is, I still think, a legitimate way of saying that what he saw was not a physical dagger at all."[2]

It then appears that Ayer holds (T_1) and (T_2) to be equally plausible interpretations of (4); his adopting (T_2) does not make him reject (T_1), nor *vice versa*.

Now, the following objection could, I think, be raised against Ayer: (T_1) has the drawback of admitting facts which contain non-existent entities as constituents: according to (T_1), the fact that Macbeth sees a non-existent physical dagger clearly contains the non-existent dagger as a constituent. On (T_2) this undesirable

[1] *PE*, p. 85, in a long footnote beginning on p. 83.
[2] *PE*, p. 86n.

consequence does not follow. Hence we have a reason for rejecting (T_1) in favour of (T_2). Doing so of course does not imply that (4) is not a convenient way of describing Macbeth's hallucination. At most it implies that (4) must be regarded as an inadequate or misleading formulation.

Since (4) implies (2′) only in conjunction with (T_1) (cf. (6′)), and (T_1) has to be given up if the above argument is correct, we must conclude that Ayer has not managed to prove (2′). Hence, even if it were conceded to Ayer that (1′) and (2′) *do* entail (3), we are still not bound to accept (3), (2′) being unfounded.

In a discussion with G. E. Moore[1] Ayer argues as follows for the indispensability of (T_1):

> Admittedly "a dagger which does not exist" is not a physical but at best a sensory dagger. If in the sentence "he was seeing a dagger" we make the words "a dagger" do duty for the phrase "a dagger which did not exist" . . . they are being used in a different sense from that in which they are used when it is said that Macbeth did not see a dagger but only thought he saw one. But it does not follow that the words "a dagger", as they are used *within* the phrase, and not as a substitute for it, are being used in a special sense. On the contrary it is only if they are taken, in the normal way, as referring to a physical entity that the phrase has any meaning in this context, and this, I think, is just what my argument requires.[2]

The line of thought met with in this passage could conveniently be presented thus:

(i) If the words "a dagger" in (4) do not refer to a physical entity (are not interpreted in accordance with (T_1)), they refer to a sensory dagger.

(ii) If they refer to a sensory dagger, (4) is contradictory (cf. (1′)).

(i) and (ii) together entail

(iii) If the words "a dagger" in (4) do not refer to a physical entity, (4) is contradictory.

(iv) (4) is not contradictory.

(iii) and (iv) together entail

(v) The words "a dagger" in (4) refer to a physical entity (are to be interpreted in accordance with (T_1)).

So, Ayer seems to conclude, even if we accept (T_2), we cannot dispense with (T_1). A dubious premiss in this argument is (i).

[1] *PE*, pp. 84–86n. [2] *PE*, p. 85n.

(i) rests on the assumption that the formulation (4) is *final* in the sense that (4) cannot be translated into any other formulation that gives a correct analysis of its meaning. If we reckon with (T_2) as a correct interpretation of (4), as Ayer himself seems prepared to do, the assumption above is false. For, if (T_2) is correct, the question whether the words "a dagger" in (4) refer to a physical entity, or to a sensory dagger, or to anything else, obviously reduces to the question to what these words refer in (5), or is quite meaningless. There remains then no reason to accept (i), nor the conclusion (v).

We may finally touch upon the following point discussed by Ayer and Moore. Ayer says that his argument for (3) above requires

> that the sense in which I use the word "exist" when I say of Macbeth that he saw a dagger which did not exist should be the same as that in which Moore uses it when he says that "x exists" is entailed by "x is directly apprehended."[1]

This assertion seems to be quite justified, but we had better state clearly the reasons for it: (*a*) If (1) and (2), or (1′) and (2′), are to entail (3), it is requisite that "exists" should be taken in the same sense in these premisses, otherwise we get a *quaternio terminorum*. (*b*) If (4) is to constitute a reason for (2), or for (2′), it is requisite that "exists" should be taken in the same sense in (4) and (2), or in (4) and (2′). Hence, Ayer's argument for (3) requires that "exists" should be taken in the same sense in (4) and (1), or in (4) and (1′); which, indeed, is what he asserts in the passage quoted.

Now, Moore argues as follows[2]: The phrase "a dagger which did not exist" in (4) is synonymous with "a dagger which was not a physical entity". But when Moore said that "x is directly apprehended" entails "x exists", he did not mean by "x exists" "x is a physical entity". Ayer objects to this argument that from the fact that the phrases "a dagger which did not exist" and "a dagger which was not a physical entity" may be taken as synonymous it does not follow that the phrases "did not exist" and "was not a physical entity" are synonymous; any more than it follows from the synonymy of "Sir Galahad never existed" and "Sir Galahad was not a real person" that the phrases "never existed" and "was not a real person" are synonymous. The sense of "exist" in this last

[1] *PE*, p. 85–86n.

[2] In an addendum to "Reply to my critics", in the second edition of *The Philosophy of G. E. Moore*.

case is precisely the same as in (4).[1] This objection is in my opinion quite convincing.

There remain, however, two observations to be made: (*a*) If the term "apprehend" in (1) and (2) is not taken in different senses, then, if (1) and (2) are both to be true, the term "exists" must be taken in different senses, or (1) and (2) must be replaced by (1′) and (2′) respectively. In neither case will (3) follow. (*b*) Although Moore appears to be wrong in his *argument* for the view that "exists" is taken in a different sense in (4) from the one in which it is taken in (1), or (1′), that view may nevertheless be correct. One could argue as follows for it: The term "exists" occurs in different senses in the following statements :

(7) The sense-datum S exists (say, a hallucinated dagger).

(8) The physical object O exists (say, a certain physical dagger).

We designate the different senses by "exists_7" and "exists_8" respectively. The next step is then to claim that "exists" in (1) or (1′) occurs in the sense of "exists_7", while in (2) or (2′), and in (4), it occurs in the sense of "exists_8". Accordingly, Ayer's argument for (3) is a *quaternio terminorum*.

I think however that Ayer can escape from this objection by denying that "exists" is used in different senses when asserted of sense-data and of physical objects respectively. I can see no reason why, in both uses, "exists" should not mean exactly the same.

University of Uppsala

[1] *PE*, p. 86n.

DIFFERENT KINDS OF HEED CONCEPTS

By ALAN R. WHITE

IN chapter V, section 4, of *The Concept of Mind*, Professor Ryle considers a 'battery of concepts all of which may be brought under the useful because vague heading of "minding". Or they could all alike be described as "heed concepts"'. Without here attempting a detailed analysis of each concept, I shall try to show briefly that because he has wrongly assimilated certain concepts of logically different kinds, he reaches certain *general* results which are due to different features of these different concepts, and none of which is true of heed concepts in general.

The three specific conclusions I shall try to prove are (a) that a mistaken assimilation of the notions of *attention* and *care* has led Ryle (i) to consider only those cases where the object of attention is an activity of our own, such as our driving, reading, gardening; and (ii) to give 'readiness' or 'preparedness' to cope as an essential ingredient of attention; (b) that a mistaken assimilation of the notions of *attention* and *interest* has led him to think that a statement describing someone as attending to what he is doing (or doing something with attention) is a 'mongrel-categorical' (semi-hypothetical, semi-dispositional) statement; (c) that a mistaken assimilation of the notions of *attention* and *notice* has led him to propose an 'ability to tell what he has been engaged in' as an essential part of the meaning of 'having been attending to what he has been doing'.[1] Anyone who re-reads this section of Ryle's book with these three points in mind will notice how his choice of concept for discussion, e.g. *attention*, *care*, *interest*, *notice*, unwittingly changes to suit his different detailed theses.

(a i) It is quite clear that our attention is not restricted to our own activities, e.g. our driving, but can be given to almost anything, such as other people's activities, e.g. my wife's driving, a physical object or person, e.g. the blackboard, the lecturer, a problem or controversy, e.g. the causes of the rising unemployment, or (as Ryle in his chapter on 'Sensation and Observation' is aware) some feeling of our own, e.g. a pain in the back. Indeed, I think that the general use of the notion of attention is to signify that something is the centre or object or topic of some of the

[1] Conclusion (c) has been recently substantiated by U.T. Place, 'The Concept of Heed', *The British Journal of Psychology* XLV (1954) 243–255.

agent's activities, especially his perceptual (e.g. looking, listening, etc.) and intellectual (e.g. puzzling, reminiscing, etc.) activities. Why then does Ryle confine his discussion of attention almost entirely to the type of instance where the object of attention is one's own activity, such as driving, reading, gardening? Because, I suggest, the notion of *care*, to which he assimilates the notion of *attention*, *is* thus confined. I can attend either to my own driving or to my wife's, but I can take care only in regard to my own driving. I can attend to the blackboard or the lecturer or the pain in my back, but I cannot, except in a different though related sense, take care of these.

This mistaken restriction of heed concepts to one's own activities is, also, both an effect and a cause of Ryle's emphasis on the adverb 'attentively' rather than the verb 'attend' (or 'pay attention to'), for the adverb can qualify only a verb of the subject's activity.

This much we can say about the result of Ryle's assimilation of *care* and *attention*, without having to say much that is positive about either of these notions themselves.

(a ii) One difference between *care* and *attention* is relevant here. To say that someone is attending to something is to say no more than that thing is what he is looking at, listening to, thinking of, busied about, etc. As a result of such perceptual and mental activities, he *may* be ready or prepared to cope with certain emergencies that are arising or will arise, but this is a result of his attention and not part of the meaning of the word. If a man is attending to his driving, then his mind and his eyes are on his driving and not on something else such as his companion or his financial problems. To say, on the other hand, that someone is taking care is to say not merely that he is attending but that he is attending to certain details to which he *ought* to attend, and attending to them *so as* to be prepared and to guard against certain eventualities. Lawyers, indeed, are often inclined to define 'care' solely in terms of foresight. The jeweller who examines a diamond with attention looks at it closely and thinks about it and about nothing else; but the jeweller who examines it with care not only looks at it but looks out for certain features such as flaws. A careless driver is not necessarily an inattentive driver, though a man who drives without attention is failing to exercise care. A child's or an adult's whole attention may be given to his play, but it would often be quite wrong to say he was then exercising any care. To remark on someone's increasing attention to something is not *eo ipso* to remark on his

growing care, though very often one increase accompanies the other.

Such phrases as 'ready', 'prepared', 'alert', 'vigilant', 'on the look out for', 'on the *qui vive*', 'circumspect', 'with one's eyes peeled', 'on guard against', go more closely with the notion of *care* than with that of *attention*.

[Perhaps another, minor, confusion whose source also lies in the false assimilation of care and attention, may be mentioned here. On p. 143 Ryle argues (1) that an instruction to 'take heed' needs supplementation by a reference to *what* is to be done with heed, e.g. read, swim; (2) that such an instruction carries a different message for, and requires different reports from, different agents engaged in the same activity, e.g. the instruction to heed what he is reading in the case of a pupil, a proof reader, an oculist's patient. Now Ryle clearly writes as if (*a*) points (1) and (2) were exactly the same, and as if (*b*) both applied to all heed concepts. And this is doubly mistaken.

(*a*) That the assimilation of points (1) and (2) is mistaken can, I hope, be seen by simple inspection. It is further clear from the fact argued under (*b*), namely, that point (1) applies to both *care* and *attention*, whereas point (2) applies only to *care*. The point referred to in (2) is that discussed by lawyers under standard and duty of care; and this does not arise with the notion of attention.

(*b*) Though point (1) is true of both *care* and *attention*, point (2) is not true of *attention* at all. Pupil, proof reader, and patient are obeying the instruction to give their attention to their reading in so far as they make the passage the whole and the sole object of their eye and mind, that is, in so far as they look at and think about it and nothing else. What features of it they particularly look at and think about is irrelevant. On the other hand, the sorts of things in the passage, e.g. misprints, to which a proof reader is required to give his attention if he is to earn the title of careful are different from the sorts of things, e.g. fallacies, to which a careful pupil must attend.]

(b) By a 'mongrel-categorical' statement Ryle means one which furnishes an 'explanatory report of an actual occurrence' and a 'conditional prediction of further occurrences'. Such an analysis, however, suits the notion of *interest* but not that of *attention*, that is, it applies to 'He is reading the book with interest' but not to 'He is reading the book with attention'. For (i) we can *explain* his reading by his interest but not by his attention. Significantly, in all his other examples (p. 140) of a

person playing a piano, e.g. ' for his own pleasure, or to please an audience, or for practice, or for instruction purposes, or under duress, or as a parody of another pianist ' (as well as his later example of a soldier fixing his bayonet obediently), these phrases could legitimately be said to name a reason for his playing (or for his fixing his bayonet)—as could also the phrase ' for interest '. Yet in the example of a person playing a piano ' quite absent-mindedly and by sheer rote ' (or, on the contrary, ' with great care and attention '), the phrases can in no way be said to be used to *explain* why he is playing, though they might be used to explain the *manner* of the playing. (ii) To say that someone is at this moment *taking an interest* in so and so *is* to say something semi-dispositional because it is to say that what he is doing, namely, paying attention to so and so, is the exercise of an inclination to pay attention to it and not to anything else. But to say merely that someone is at the moment paying attention to so and so is not to suggest that this is the exercise of any inclination to pay attention. When we describe the southward flying bird as ' migrating ', we suggest that the flight is an exercise of its seasonal habit of flying south; when we merely describe it as ' flying south ', we omit this suggestion. It is significant that though Ryle always gives the impression that ' He was *attending* to what he was doing ' is to be paralleled by ' He was practising at the piano ', ' He was playing it in a parody of so and so ', ' The salt was dissolving ', ' The bird was migrating ', etc., yet, when he works out the analogy, the instance given as parallel to these others is ' He was *interested* in what he was doing '. (iii) Hence, while we can conditionally predict that a person who is taking an interest in so and so will behave in certain ways, namely, will pay attention to other things connected with this and not pay attention to things unconnected, we can make no such predictions about the behaviour of someone of whom we know only that he is now giving his attention to so and so.

To say that a person is reading a book with attention and to say that he is reading it with interest are, therefore, logically different. Only the latter may be called a ' mongrel categorical ', if we use the term, as Ryle does, to refer to statements which are ' narrative, explanatory and conditionally predictive ' or which are ' propensity-fulfilments '.

(c) The notions of *attention* and *notice* differ, roughly, as activity and result. This can be seen from the fact that questions of manner, e.g. ' conscientious ', ' reluctant ', of time, e.g.

'continuous', 'interrupted', of decision and refusal, of motive and intention, of success and failure, etc., are applicable to the former but not to the latter; while questions of ability, of speed, and of descriptions of the results (e.g. 'noticed that, how, whether . . .') are applicable to the latter and not to the former.

Now it may well be right that part of the meaning of 'notice' is an ability to tell, in the same way that such an ability may be part of the meaning of 'know', 'discover', 'recognise', 'identify', etc. But such an ability does not appear to be part of the meaning of 'attend'. Cross-questioning a reader elicits directly what he has noticed in his reading, and only indirectly what he has been paying attention to, in so far as one cannot notice anything without some attention. Examinations to discover what someone has noticed are designed not only to distinguish the attentive from the inattentive, but also those who have profited from their attention from those who have not.

I have suggested that Ryle reached certain general results about heed concepts which are mistaken because he thought these concepts were alike in ways in which they are not. But I do not deny that they have a likeness in virtue of which we can bring them 'under the useful because vague heading of "minding"'. They all, indeed, involve the notion of heed or attention; but, as I hope to have shown, in different ways.

University of Hull

BODILY CONTINUITY AND PERSONAL IDENTITY

By ROBERT C. COBURN

RECENTLY several arguments have been advanced in support of the thesis that the spatio-temporal continuity of a physical body is always a necessary condition of personal identity. I wish here to register certain misgivings with these arguments.

The first is an argument presented by B. A. O. Williams in an article entitled " Personal Identity and Individuation."[1] It runs as follows. Suppose a given individual, Charles (say), wakes up one morning quite transformed: he has a different character, different skills and knowledge, and a different set of memories.[2] And suppose further that his new " personality " is exactly similar (so far as can be ascertained) to that of some historical personage: Guy Fawkes (say); i.e., suppose that his character-traits, skills and knowledge are exactly similar to those Fawkes was known to possess, and that those of his memory-claims which can be checked " fit the pattern of Fawkes' life as known to historians ", while the others " are plausible, provide explanations of unexplained facts, and so on."[3] In such a case, it is claimed, we would doubtless be tempted to identify Charles with Fawkes, to say that Fawkes has somehow come to life again in Charles' body. But, the argument continues, we would do well to resist this temptation for the following reason. If the transformation described could take place in Charles, then an exactly similar change could (logically) come over his brother, Robert. And in this eventuality, if we could identify Charles and Fawkes, we could also identify Robert and Fawkes. But such a double identification would lead to very bizarre results, among these being that Robert and Charles could properly be said to be the same person, and that it is possible for one person to be in two places at once. And this consideration makes it clear that to identify Charles and Fawkes when only Charles has undergone the described change would be quite " vacuous ".[4] After all, if in the reduplicated case sameness of character, skills,

[1] In *Proceedings of the Aristotelian Society*, LVII (1956-57).

[2] I.e., he is disposed to make quite different memory-claims.

[3] Williams, *ibid.*, p. 237. In describing this hypothetical situation by saying that it is Charles who awakens transformed, etc., I have, of course, described it in a way which begs the question at issue. This has been done for brevity's sake. The situation could be described in a more aseptic way quite easily.

[4] Cf. *ibid.*, p. 240.

knowledge, and ostensible memories does not entail the identity of the individuals displaying these characteristics, why should it when Robert remains normal and only Charles is transformed?

Now the difficulty I have with this argument is that it leads to consequences which are prima facie as absurd as those which follow upon the identification of Charles and Robert in the reduplicated case. Consider the following imaginary situation. George is sitting on a sofa at a party and all of a sudden he vanishes. Then, a moment later, an individual begins to exist who is in all discernible respects exactly similar to George (say, George*). Now clearly if Williams' argument is valid, it would be as vacuous to identify George and George* as to identify Charles and Fawkes in the case he considers. After all, reduplication is as possible in the former case as it is in the latter, and this possibility presumably affects the unique case in the same way.

But surely to label utterly vacuous a statement asserting that George and George* are the same person is paradoxical in the extreme. In the first place, we can easily imagine George* claiming to be George, to have done the things George did, to be married to George's wife, and so on. Indeed, that he should make such claims is entailed by the description of him as being disposed to make the same memory-claims as George. How in the face of avowals like these could the judgment that George and George* are two—or anyhow only one in a " vacuous " way—be made to stand? Furthermore, suppose George has committed various crimes—one six months ago (say), and another two years ago. Surely we would not hesitate to hold George* responsible for these crimes, just as prior to the " discontinuity " we held George responsible for them. But to attribute responsibility in this way obviously is tantamount to making the allegedly illicit identification since we do not nowadays, as a rule, hold people responsible for the voluntary behaviour of other people.

I would not, however, be misunderstood. What this latter case shows (at best) is not, in my judgment, that sameness of character, memories, etc. *does* entail the identity of the individuals displaying these traits; but rather only that under certain conditions[1] sameness of character, memories, etc. may provide excellent reason for making identification—and an identification which is anything but " vacuous ".

This brings me to the second argument in support of the bodily continuity criterion of personal identity which I wish to

[1] The absence of reduplication of the sort Williams describes would clearly be among these conditions.

consider. This argument has been advanced by G. C. Nerlich[1] and is especially pertinent here inasmuch as it is addressed specifically to just such cases of discontinuity as the case I have described in the attempt to show Williams' argument defective.

The argument, if I understand it correctly, is this. Given the case of discontinuity I have described above, it would be true to say that if George had continued to exist to that point in time at which George* begins to exist (though *ex hypothesi* he does not), he (George) could then have been placed side by side with George*. But if this counterfactual statement is true, then it follows that George and George* are not identical, even though they are exactly similar in all discernible respects.

Now the question which this argument raises is why the counterfactual statement indicated must be held to be true. Clearly it is not obviously true. For if we do have reason for identifying George and George* (as we certainly seem to have), then we also *ipso facto* have reason for denying the counterfactual. That is, if we are correct in saying that George and George* are the same person, then we would certainly be wrong if we also said that had George persisted a bit longer, he could have been set beside George*. Rather what we should then say is that if George had persisted a bit longer, there would have been no discontinuity.

However, as far as I can see, Nerlich has provided very little argument for saying the counterfactual indicated is true. Upon introducing the statement he says on its behalf only that there is " no hope of a satisfactory account " of the truth conditions of counterfactual conditionals generally on which counterfactuals of the sort indicated are falsified given situations of the George-George* type.[2] But why there is " no hope ", he fails to say. And (what is worse), when, later on, he says that there is but one straightforward case in which a counterfactual like the one indicated " can be shown not to apply and that is where it fails to be counterfactual ", that is, where George is continuous with George*,[3] he clearly begs the very question at issue—the question namely whether continuity is always a necessary condition of identity.

However, toward the end of his paper (and partly by way of summary) a clue is provided as to one possible motivating factor for his insistence on the truth of the counterfactual in question. He says: " If, in a case of discontinuity, it is enough for identity

[1] See G. C. Nerlich, " Sameness, Difference and Continuity ", *Analysis*, 18 (June, 1958).
[2] *Ibid*, p. 147. [3] *Ibid.*

that B should exactly resemble A, then we can find no room for saying even that B *might* be a different thing, for it would seem that only *dissimilarity* can now be strong enough to constitute non-identity."[1] And this point, apparently, is taken as a sort of *reductio ad absurdum* of the view that identifying George and George* would be proper in a case of the sort I have described. But what is absurd in the view according to which it is senseless to say that George might be a different person from George*, I confess, eludes me. After all, to say it is senseless to think that George might be different from George* is not to say it is senseless to think that George *might have been* different from George*. For George would have been different from George* if in addition to George* a second individual exactly resembling George had come into existence as well. And this is so because in this sort of case we would not want to identify both with George for the reasons Williams has given (and which have been noted above). So what we have to give up as senseless when we deny the truth of Nerlich's counterfactual is a notion which it is difficult to see why we should wish to salvage anyway.

Dartmouth College, New Hampshire.

[1] *Ibid.*, p. 149. (Italics his.)

NOTICE TO CONTRIBUTORS

Contributors in the United Kingdom are asked to note that a stamped addressed envelope of suitable size should always be enclosed when a MS. is submitted. Overseas contributors, if they wish to have their MSS. returned, should enclose international reply coupons. See Notes on back cover.)